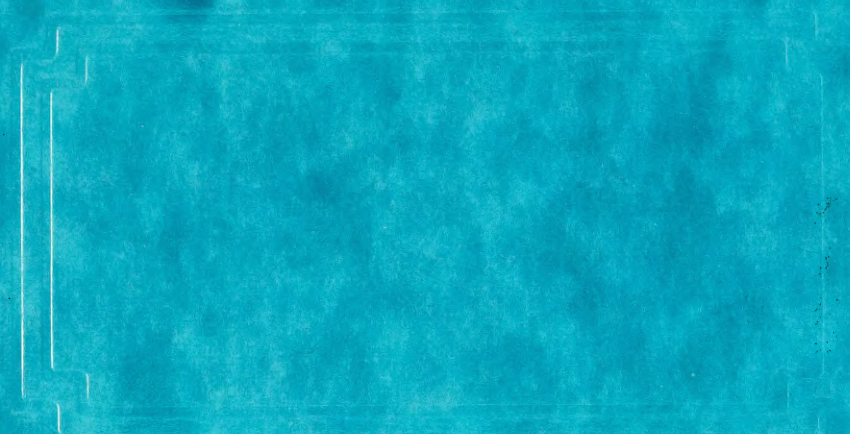


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SPECIES AT RISK IN CANADA



Jean-Luc Bourdages
Science and Technology Division

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SPECIES AT RISK IN CANADA

INTRODUCTION

As early as 1980, the International Union for Conservation of Nature and Natural Resources (IUCN), along with the United Nations Environment Programme (UNEP) and the World Wildlife Fund (WWF), developed a world strategy for the conservation of living resources in order to further sustainable development.⁽¹⁾ This strategy was based on three principal objectives:

- the maintenance of essential ecological processes and life-support systems;
- the preservation of genetic diversity; and
- sustainable utilization of species and ecosystems.

A few years later, the World Commission on Environment and Development, better known as the Brundtland Commission, further highlighted the concept of sustainable development in a report⁽²⁾ that will undoubtedly be seen as the trigger in the international community's collective focus on increased protection of the environment and natural resources. Although many countries supported the idea of sustainable development and were formulating policies for its implementation, the tendency was to pay little attention to the conservation of species and their habitats. The Brundtland Report, however, like the World Conservation Strategy in 1980, established that the protection of species and ecosystems is indispensable to the achievement of sustainable development.

(1) IUCN, *World Conservation Strategy*, Gland, Switzerland, 1980.

(2) World Commission on Environment and Development, *Our Common Future*, Oxford University Press, 1987.

In the years following the publication of the Brundtland report, the United Nations Organization held an important conference (UNCED) in Rio de Janeiro, Brazil, on the environment and development; the leaders of 105 countries took part. In addition to the development of Agenda 21 and the adoption of the Framework Convention for Climatic Change, the Earth Summit gave top priority in its discussions to the conservation of biodiversity and adopted the international Convention on Biological Diversity. One year after the Rio Summit, 168 countries had signed the Convention, and 114 countries, Canada being the first, have since ratified it. Under the Convention, countries made a commitment to protect threatened species and habitats. Article 8k states that signatory countries shall "develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations."⁽³⁾

Canada has for a long time been concerned with the protection of its natural and historic heritage. As an example, 100 years ago it had laid the groundwork for a national system of parks and natural sites. These protected lands have ensured the conservation of the country's most beautiful landscapes for past, present, and future generations. Like a number of other statutes--the *Fisheries Act*, the *Migratory Birds Convention Act*, the *Canadian Wildlife Act*, the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act*--the *National Parks Act* also protects certain species that are at risk and their habitats. All these statutes play an important role with regard to the conservation of natural ecosystems and the wildlife they support, but their existence has not stopped the disappearance of species once found in Canada. The commitment Canada made in 1992, after the Rio Summit, was therefore justified and should make possible the action necessary to ensure more effective protection of species and ecosystems now at risk.

This paper first gives a general picture of the protection of species at risk in Canada and in other countries, primarily through an overview of the general concept of biodiversity and its importance internationally and in Canada. This is followed by an examination of the consequences of the loss of biodiversity in this country. We will then present the different approaches and actions taken in Canada, both federally and provincially,

(3) J.P. Drapeau, "Se prendre pour Noé...ou laisser faire?", *Franc-Vert*, May, June, July 1992, p 16.

to ensure the conservation and recovery of species at risk. Also examined is the experience acquired in this regard in certain countries, particularly the United States, which, since 1973, has had a specific statute for the protection of species at risk. Finally, we will look at the most recent federal bills on this topic.

OVERVIEW OF BIODIVERSITY

A. Biodiversity

The term biodiversity--or biological diversity--can be defined as the variety of life and its processes. It includes the variety of living organisms, their genetic differences, the communities and ecosystems in which they are found, and the ecological and evolutionary processes enabling them to function, to change, and to adapt.⁽⁴⁾ More simply, biodiversity corresponds to the totality of genes, species and ecosystems that make up all the lifeforms found on earth. Each level of biological organization is important, and all are interrelated. Genes are the elements identifying each of the species living on earth; all the interrelated species in a given environment together form an ecosystem. Species, the level of biological organization of particular concern to us in this paper, can be defined as the variety of lifeforms on earth, represented by each of the species. Scientists, then, speak of specific diversity rather than genetic diversity.

The diversity of lifeforms on earth constitutes the basis of the human environment and is the reason the planet is habitable. It is these lifeforms that maintain the ecological functions essential to humanity's survival. Thus, the interaction of a number of species makes possible the production of oxygen, the conversion of energy from the sun into carbohydrates and protein, the purification of drinking water, and moderation of the climate.

(4) R.F. Noss and A.Y. Cooperrider, *Saving Nature's Legacy - Protecting and Restoring Biodiversity*, Island Press, Washington (D.C.), 1994, p. 5.

These lifeforms also produce the soil that supports crop production and purify the air.⁽⁵⁾ Biological diversity also contributes to the well-being of humanity and the satisfaction of its needs. Most food comes from natural sources; of the 80,000 edible plants in the world, approximately 20 species, such as rice, corn and wheat, meet 90% of the world's needs.⁽⁶⁾ Although people use only a few thousand plants, they count on wild species to improve their crop production. Many medicines also come from wild species. In North America, half of all drugs prescribed come from natural sources; for example, the active ingredient of aspirin was discovered in the White Willow.⁽⁷⁾ Similarly, the Rosy Periwinkle is indispensable in curing certain types of leukemia, such as the one from which Mario Lemieux suffered a few years ago. Finally, the economic benefits of biological diversity are far-reaching, affecting the development of resources, such as forestry, fishing and agriculture, as well as pharmacology, biotechnology and ecotourism.

Canada's responsibilities with respect to the conservation of biological resources are extensive, the country has 13 million square kilometres of land and water, while its coastline is the longest in the world, consisting of close to 244,000 kilometres bordering the Atlantic, Pacific and Arctic oceans. Canada is home to almost 20% of the planet's wildlife, 24% of its wetlands, 20% of its freshwater, and close to 10% of its forests.⁽⁸⁾ It comes as no surprise, therefore, that the diversity of wild species is an integral part of this country's heritage and identity. This diversity has also given rise to numerous recreational activities, such as hunting, fishing and tourism, which bring in billions of dollars and provide jobs for many Canadians. Ironically, many of the species that are particularly popular with tourists are at risk; they include the Grizzly Bear, the Wood Bison, the St. Lawrence Beluga Whale, the Sea Otter, the Harlequin Duck, and the Trumpeter Swan.⁽⁹⁾

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- (5) Biodiversity Working Group, *Canadian Biodiversity Strategy - Canada's Response to the Convention on Biological Diversity*, November 1994, p. 4.
- (6) The National Wildlife Federation's Endangered Species Program, *Why Should We Save Species*, National Wildlife Federation's Gopher Text, 2 p.
- (7) Biodiversity Working Group (1994), p. 4.
- (8) *Ibid.*, p. 8.
- (9) The Sierra Legal Defence Fund, *Recommendations for Federal Endangered Species Legislation*, produced for the Endangered Species Coalition, 25 April 1995, p. 8.

In order to satisfy its future needs, humanity will have to turn to nature, as it did in the past, to find new sources of medicine or chemicals, or to improve crop production. If it fails in its attempt to preserve biodiversity, it is in danger of losing all these possibilities. A recent discovery in the pharmacological and medical sector, taxol, is an eloquent illustration of how important it is to meet the goal of maintaining biodiversity and shows that the problem is not restricted to the tropical zones. Taxol is an anticancer agent discovered in the bark of the Pacific Yew, which grows on the west coast of Canada and the United States. As well, a powerful insect repellent, trans-pulegol, was recently discovered in an endangered plant of the mint family.⁽¹⁰⁾ Furthermore, each species is a unique source of genetic information and the future of research into genetics or biotechnology will depend on what information is available. Finally, biological diversity guarantees a good range choice of future options for reacting to changing and unexpected environmental conditions.

Despite the importance of biodiversity to humanity, its worldwide decline is now recognized as one of today's most serious environmental problems.⁽¹¹⁾ The extinction of species goes on, of course, as a natural phenomenon; new species arise, while others disappear forever. Until a few decades ago, there was a general trend toward greater diversity, with losses amply offset by the evolution of new species; however, in recent decades we are seeing a considerable reduction in biodiversity, largely because of human activities associated with industrial, agricultural and urban development. Some researchers estimate that the impact of human beings on forests and biologically rich environments has become so intense that the current rate of species extinction is 1,000 to 10,000 times greater than the natural rate of extinction before the appearance of *homo sapiens*.⁽¹²⁾

Nobody knows exactly how many species there are in the world; however, according to the first United Nations report on biodiversity, published in late 1995, there are 13 to 14 million, of which only 1.75 million have been identified. According to the same report, 484 animal species and 654 plant species have disappeared over the last 400 years, and

(10) T. Eisner, "The Hidden Value of Species Diversity," *Bioscience*, Vol. 42, No. 8; p. 578.

(11) Biodiversity Working Group (1994), p. 5.

(12) *Ibid.*, p. 5.

over 30,000 species are in danger of extinction.⁽¹³⁾ The U.S. National Science Board estimates that 25% of the species now on earth could disappear over the next 25 years;⁽¹⁴⁾ this is the most serious of the global changes, especially because the loss of biodiversity is irreversible.

It is recognized that biological diversity is greater in tropical zones than in those that are temperate and colder. This does not mean, however, that the protection of biodiversity is any less crucial in Canada than elsewhere; each species is important to the proper functioning of the ecosystem in which it evolves. As Table 1 shows, 71,895 species have been listed to date in Canada. Furthermore, scientists suspect the existence of another 53,780 species yet to be identified and described. The numbers are highest for insects, both for known and suspected species.

B. Consequences of the Loss of Biodiversity in Canada

The U.N. report on biodiversity offers a number of explanations for the decline in biodiversity. They include the increase in population and economic development, which, in their individual ways, help to use up biological resources. Humanity has also failed in its attempt to evaluate the long-term effects of behaviour that leads to destruction of habitats, exploitation of natural resources and the introduction of exotic species. The inability of the laws of the economic market to recognize the value of maintaining biodiversity is another factor. Increases in human migration, travel and international trade also constitute a threat to biodiversity, as does the increase in pollution.⁽¹⁵⁾

(13) "Humans Destroying Species At Alarming Rate, UN Says," *Ottawa Citizen*, 14 November 1995, p. A9.

(14) Q.D. Wheeler, "Systematics and Biodiversity-Policies at Higher Levels," *BioScience Supplement* 1995, S-2.

(15) "Humans Destroying Species ..." (14 November 1995), p. A9.

Table 1: The Biological Diversity of Wild Species in Canada

Plant and Animal Groups	Known Species^a	Suspected Species^a
Algae and diatoms	5,323	2,800
Slime molds, fungi, and lichens	11,400	3,600
Mosses and liverworts	965	50
Ferns and fern allies	141	15
Vascular plants (about 78% native)	4,187 ^b	100
Molluscs	1,121	100
Crustaceans	3,008	1,100
Insects	33,755	32,800
Spiders, mites, and ticks	3,171	7,700
Other invertebrates	6,879	5,000
Sharks, bony fish, and lampreys	1,091	513
Amphibians and reptiles	83	2
Birds	578	0
Mammals (excluding humans)	193	0
Total	71,895	53,780

^a "Known species" are those that have already been named and described, whereas "suspected species" are those that are thought to exist but have not been named or described. Bacteria and viruses also contribute part of Canada's biological diversity. Almost 170,000 species are suspected to exist in the country, but only about 2,200 species have even been named.

^b Of the species total for vascular plants, 3,269 are considered native species and 918 are introduced or non-native.

Source: Environment Canada, *The State of Canada's Environment - 1991*, Canada's Green Plan, Ottawa, Government of Canada, 1991, c. 6, p. 5.

In Canada, the primary cause of the reduction in biodiversity is the loss of habitats. It has been estimated that 80% of the reduction in species in this country has come about for this reason.⁽¹⁶⁾ Overhunting, as in the case of the Grizzly Bear, overfishing,

(16) House of Commons, *Evidence of the Standing Committee on Environment and Sustainable Development*, Session 108, 26 April 1995, p. 108:9.

pollution, and the introduction of exotic species such as the Zebra Mussel are the other principal causes.

Environment Canada has attempted to estimate the number of eco-regions at high risk with respect to biodiversity. Of the 177 eco-regions identified in Canada, 14, or 7% of Canada, are considered to be at high risk, primarily because of conversion of lands to agricultural or urban use. Thus, we have remaining less than 13% of shortgrass prairie, 19% of mixed-grass prairie, 16% of aspen parkland and only a few hectares of tallgrass prairie. Urbanization is concentrated in the Quebec City-Windsor corridor, where the ecosystems with the most species are found. In these inhabited regions, which are home to almost half the species that are threatened or on the way to extinction in Canada, the wetlands have been reduced by close to 90%. Similarly, only small patches of the Carolinian forest remain, in the extreme southern part of Ontario.⁽¹⁷⁾

Forestry is another land use that has played a large role in the loss of habitats. With forests covering almost half of Canada, it is difficult to protect biodiversity unless we protect forest ecosystems and the species they contain. Unfortunately, the number of pristine temperate west coast rain forests keeps shrinking; in the three Maritime provinces, old-growth forests cover a very small area and exist only in patches, while in central Canada only a few small stands of old red and white pines remain.⁽¹⁸⁾

Canada's aquatic and marine systems have also undergone major changes. The ecosystem of the Great Lakes has been significantly affected by heavy fishing and successive invasions of various species, as well as by pollution and alteration of habitats. The disappearance of the Blue Walleye of Lake Erie is an example of overfishing. In Atlantic coastal waters, heavy exploitation of the ecosystem of Georges Bank between 1963 and 1986 resulted in a decrease in the proportion of cod in the total catch from 55% to 11%, while the proportion of dogfish in the catch jumped from 2% to 41%.⁽¹⁹⁾

Exotic species introduced include the fungus responsible for Dutch elm disease, which has eliminated almost all mature elms in many areas. Other species are on the increase, such as the Ring-billed Gull, which is invading the cities of the St. Lawrence and the Great

(17) Environment Canada, Biodiversity Science Assessment Team, *Biodiversity in Canada: A Science Assessment*, Summary, edited by A. Keith, 1994, p. 11.

(18) *Ibid.*, p. 9.

(19) *Ibid.*, p. 14.

Lakes.⁽²⁰⁾ Ecosystems are not static, and changes in their composition are normal, but care must be taken not to accelerate the process or create conditions that could lead to the displacement of indigenous species.

The only means of maintaining a significant portion of biological diversity is to lessen the impact of human activities on the global environment. The first step in this direction, however, continues to be the establishment of strategies for the management of threatened species. The importance of this measure resides in the fact that plants and animals, particularly birds and mammals, are known as excellent indicators of the general state of the environment. One of the best known examples is, of course, DDT; this product had bioaccumulated in the food chain to such an extent that, even after it was banned, it posed a large threat to the survival of predatory birds, such as the Peregrine Falcon and the Bald Eagle, which had reproductive problems directly linked to the presence of the pesticide in the environment. When a species dies out or is at risk, it very often indicates that there is too much human pressure on the ecosystem of which it forms a part.

Table 2:
Risk Categories Used by COSEWIC

Status	Definition
Species	Any indigenous species, subspecies or geographically separate population
Vulnerable	A species particularly at risk because of low or declining numbers, small range or for some other reason, but that is not threatened
Threatened	A species likely to become endangered in Canada if the factors affecting its vulnerability are not reversed
Endangered	A species threatened with imminent extinction or extirpation throughout all or a significant portion of its Canadian range
Extirpated	A species no longer existing in the wild in Canada but occurring elsewhere
Extinct	A species formerly indigenous to Canada that no longer exists anywhere
Not at risk	A species that has been evaluated and found to be not at risk
Indeterminate	A species for which there is insufficient scientific information to support a status designation

Source: Committee on the Status of Endangered Wildlife in Canada, *Canadian Species at Risk - April 1994*, Ottawa, 15 p; and *Update on Canadian Species at Risk*, Press Release, 18 April 1996, p. 2.

(20) *Ibid.*, p. 15.

SPECIES AT RISK IN CANADA

For almost 20 years, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has determined the risk category of wild species, sub-species and separate populations in Canada (see definitions of categories in Table 2). COSEWIC is made up of independent scientific experts from each provincial and territorial wildlife management agency, four federal agencies and three non-governmental conservation organizations. Over the years, COSEWIC has compiled a credible and recognized list of Canadian species at risk, based on solid scientific facts. The species examined by the committee include birds, mammals, fish, amphibians, reptiles and vascular plants. In 1994, COSEWIC's mandate was expanded to include some 4,600 species of butterflies and moths, 1,400 species of shellfish, 1,000 species of moss and approximately 11,000 species of lichens and fungi.⁽²¹⁾ Out of a total of almost 72,000 species, 22,000 or 30% of all known species in Canada are now being studied by COSEWIC.

In April 1996, the COSEWIC list comprised 275 species at risk, broken down as follows: 125 vulnerable species, 65 threatened species, 64 endangered species, 11 extirpated species and 10 extinct species (Table 2). The 1996 list contained 11 more species than the 1995 list, including one species of marine mollusc that has been extinct since 1929. Four species of birds that were at risk in 1995 are no longer considered at risk: the Eastern Bluebird, which has been the focus of an effective nesting box program, the Cooper's Hawk, the Great Grey Owl, and the Trumpeter Swan. On the other hand, the risk to a number of other species has increased, among them the Newfoundland Pine Marten and the Prothonotary Warbler. Finally, four plant species in the Garry Oak forests on the south end of Vancouver Island were designated endangered and one species was designated as threatened.⁽²²⁾

(21) House of Commons, *Evidence of the Standing Committee on Environment and Sustainable Development*, Session 108, 26 April 1995, p. 108:7.

(22) Committee on the Status of Endangered Wildlife in Canada, *Update on Species at Risk in Canada*, Press Release, 18 April 1996, Ottawa, 2 p.

Table 3:
Canadian Species at Risk as of April 1996 According to COSEWIC

Category	Mammals	Birds	Fish	Amphibians and Reptiles	Molluscs	Vascular Plants	Lichens	Total
Extinct	2	3	4	0	1	0	0	10
Extirpated	5	1	2	1		2	0	11
Endangered	12	16	4	4		27	1	64
Threatened	9	6	12	3		35	0	65
Vulnerable	25	20	38	8		31	3	125
Total	53	46	46	16		95	4	275

Source: Environment Canada, Canadian Wildlife Service, *The Canadian Endangered Species Act: A Legislative Proposal*, 1995, p. 4; and Committee on the Status of Endangered Wildlife Species in Canada (COSEWIC), *Canadian Species at Risk - April 1996*, Ottawa, 18 p.

The Great Auk and the Passenger Pigeon are two well-known examples of extinct species. The Swift Fox, which had ceased to exist in the wild in Canada, was recently reintroduced on the Prairies. The list of endangered species includes the Vancouver Island Marmot and the Peary Caribou. In Eastern Canada, the Piping Plover is endangered because its nesting sites are frequently disturbed by motorized vehicles. Another species of bird, the Whooping Crane, survives primarily in Wood Buffalo National Park. Also on the endangered list are three plant species: the Western Fringed Prairie Orchid, the Eastern Prickly Pear Cactus, which is found in southern Ontario, and the Small White Lady's Slipper, also a member of the family Orchidaceae. The Newfoundland Pine Marten used to be a threatened species, but recently had to be designated endangered;⁽²³⁾ this is a telling example of a species at risk in Canada that came to be at even greater risk because the factors that made it vulnerable were not reversed.

(23) Committee on the Status of Endangered Wildlife in Canada, *Canadian Species at Risk - April 1996*, Ottawa, 18 p.

In the threatened species category, the St. Lawrence Beluga is a well-known example of a species that may become endangered in Canada, primarily because of high levels of toxic pollution in the Great Lakes and the St. Lawrence Seaway. Another threatened species, the Eastern Massasauga Rattlesnake, is also in jeopardy because of the fragmentation of its habitat in the Georgian Bay region. Two plants, Blue Ash and American Ginseng, are also threatened. The Polar Bear, the Wolverine, the Peregrine Falcon, the Green Sturgeon, the Gulf of St. Lawrence Aster and the Cryptic Paw Lichen are just some of the many vulnerable species in Canada. The Peregrine Falcon is the best known of these species because of repopulation programs in several provinces, notably Quebec, whereby young falcons have been raised in captivity and then released in natural and urban settings.

PROTECTING SPECIES AT RISK IN CANADA

A. The Federal Level

There is still no specific federal legislation in Canada to protect species of plants and animals at risk. There are, however, a number of statutes that, directly or indirectly, offer some protection for such species. Canada also has a program for implementing recovery plans (RENEW) and a committee that lists species at risk (COSEWIC). As well, Canadian conservation groups have taken initiatives to save some species at risk.

1. Existing Legislation

In Canada, the *Fisheries Act* and the *Migratory Birds Convention Act* afford general protection for species as a whole but do not contain specific provisions dealing with species at risk. On the other hand, the *Canada Wildlife Act* and the *National Parks Act* do contain specific provisions on species at risk, in addition to their broader mandate. These four statutes also protect some habitats that are crucial to the survival of species at risk. With regard to domestic and international trade, the *Wild Animal and Plant and Regulation of International and Interprovincial Trade Act* applies to all species but also includes measures to protect species at risk.

The *Fisheries Act* empowers the Governor in Council to regulate all matters related to fishing, including the conservation and protection of fish and their spawning grounds. The word "fish" in the Act includes shellfish, crustaceans, marine animals and the eggs, spawn, spat and juvenile stages of fish, shellfish and marine animals. The Act thus protects all species of fish and also provides strong protection for fish habitats, including marine plants.

In 1916, Canada and the United States signed the Migratory Birds Convention, which regulates hunting, deters trade and marketing, controls the use of migratory birds through permits and licences, and allows for the creation of sanctuaries to control and manage protected areas. There are 101 migratory bird sanctuaries protecting some 11.3 million hectares. The Convention was revised in 1994 to include protection for sperm, embryos and tissue cultures from migratory birds, as well as birds and their eggs. The Convention covers all migratory birds, so that species at risk, such as the Eskimo Curlew, the Harlequin Duck, the Piping Plover, the Peregrine Falcon, the Spotted Owl and the Whooping Crane, do have some protection, even though there is no specific legislation for species at risk.

In 1973, Canada passed the *Canada Wildlife Act* in order for the federal authorities to undertake research on wildlife, especially large species, and work with the provinces to carry out conservation and recreational activities affecting wildlife and their habitats. The Act was amended in 1994 to include all land species of flora and fauna and species found within 200 nautical miles of the Canadian coast. The habitats of all these species are also protected by the Act, and there are mechanisms for protecting endangered wildlife.

In 1990, two years before the Rio Summit, the *Canada Wildlife Act* was strengthened by the adoption of a wildlife policy for Canada. The goal of the policy is to maintain and enhance the health and diversity of Canada's wildlife, for its own sake and for the benefit of present and future generations of Canadians.⁽²⁴⁾ The policy not only recognizes the importance of biodiversity, but also states that in policy making and development planning, the consideration of economic, social and environmental factors together enables wildlife conservation to be incorporated into policies, plans and projects from the start. The policy

(24) Wildlife Ministers' Council of Canada, *A Wildlife Policy for Canada*, 1990, p. 8.

also recognizes that protection of habitats and ecosystems is the cheapest and most effective way of conserving wildlife and must always take precedence over other means.

For more than a century, the *National Parks Act* has protected various sites for conservation for the benefit of present and future generations. Under the Act, the Governor in Council has the power to make regulations concerning the preservation, control and management of parks; the protection of fauna, including the taking of specimens for scientific or propagation purposes; the destruction or removal of dangerous or superabundant species; and the management and regulation of fishing and the protection of fish, including the prevention and remedying of any obstruction or pollution of waterways. All wild species of flora and fauna found within the boundaries of national parks are thus protected. In addition, the Act provides heavy fines for poaching protected or at-risk species in national parks.

Trafficking in threatened species currently represents a market that is worth approximately \$1.5 billion and affects some 37,000 plant and animal species. The United States and Canada, for example, annually import 10,000 monkeys for use in research and almost 450,000 live birds to be kept as pets. Canadians ship Caribou antlers and Black Bear gall bladders to countries in Asia.⁽²⁵⁾ These figures show how important it is to regulate international trade in wildlife.

Signed in 1973 by some 100 countries, Canada among them, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is considered the most successful international conservation agreement in history.⁽²⁶⁾ The convention plays an important role in controlling legal and illegal interstate trade in wild species at risk and products made from those species. The aim is not to eliminate trade, but rather to encourage rational, sustainable use of resources for development. In the early 1990s, the Government of Canada, recognizing the need to strengthen CITES, passed the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act* (WAPPRITA). This Act means that interprovincial trade, as well as international trade, can now be controlled; moreover, its jurisdiction extends to indigenous species designated at risk by COSEWIC, all in

(25) Agence Science-Press, "Espèces menacées: la contrebande prend du poil de la bête," *Franc-Vert*, Vol. 12, No. 5, October-November 1995, p. 12.

(26) K. Douglas, *Endangered Species in Canada*, Library of Parliament, 15 April 1991, p. 16.

accordance with CITES. The Act prohibits the export and import of wild animals and plants at risk or parts thereof, in accordance with international agreements, provincial conservation laws and conservation laws in other countries; it also prohibits the possession of wild animals or plants at risk or parts or products thereof for the purpose of sale or distribution.

2. Recovery of Nationally Endangered Wildlife Committee

The Recovery of Nationally Endangered Wildlife (RENEW) Committee was established in 1988 to prepare recovery plans for species listed at risk by COSEWIC. Its mandate is limited to birds, mammals, amphibians and reptiles, although the possibility of extending it to include aquatic vertebrates, invertebrates and plants was considered in 1993. Only a dozen recovery plans have been produced, but several others are in the works. Despite the considerable time and energy it takes to produce results, two of the plans have helped to considerably improve the status of such species as the Ferruginous Hawk and the Wood Bison.⁽²⁷⁾ The effectiveness of the plans is severely constrained by limited financial resources, insufficient scientific data to manage each species and the fact that the plans do not have the force of law. A good example of this is the case of the Burrowing Owl. Under the Operation Burrowing Owl program, an agreement has been struck with farmers and ranchers to protect nests on their property; however, the agreement protects only a small portion of the owl's nesting habitat. A recovery plan prepared under the RENEW program identifies the pesticide carbofuran as a factor in the decline of the species. Unfortunately, the plan has not been able to halt the use of carbofuran because it does not have any legal authority. The Burrowing Owl population continues to decrease, and in April 1995, the status of the species was changed from threatened to endangered.⁽²⁸⁾

Efforts by conservation groups to protect some of our species at risk should also be noted. The Wye Marsh Wildlife Centre in Midland, Ontario, for example, has been working in recent years to increase the population of Trumpeter Swans, a vulnerable

(27) Environment Canada, Canadian Wildlife Service, *The Canadian Endangered Species Protection Act: A Legislative Proposal*, 1995, p. 4.

(28) The Sierra Legal Defence Fund, *Recommendations for Federal Endangered Species Legislation*, prepared for the Endangered Species Coalition, 25 April 1995, p. 11.

species.⁽²⁹⁾ The centre's efforts seem to have paid off, as the COSEWIC list in April 1996 moved the Trumpeter Swan from "vulnerable" to "not at risk."

B. The Provincial Level

Four Canadian provinces have laws that specifically protect species at risk. Two of the four have had legislation in place for many years: Ontario since 1973 and New Brunswick since 1974. The other two provincial statutes are more recent: Quebec's was passed in 1989 and Manitoba's in 1990. These initiatives are certainly very commendable and represent a step in the right direction, particularly as they apply to private, as well as public, land. However, some experts feel that none of the four provincial statutes is strong enough, in part because all the provisions are discretionary. Listing species at risk is discretionary, and habitat protection is not required. Furthermore, none of the statutes mentions recovery plans for threatened species or includes mechanisms for studying and regulating projects likely to disturb a species at risk or its habitat. The analysts also feel these statutes have never been effectively enforced.⁽³⁰⁾

Ontario's and New Brunswick's older laws on species at risk apply only to species of flora and fauna (New Brunswick's legislation also covers subspecies) and include only one category of risk, namely endangered. There is no requirement to designate listed species at risk or to determine their habitat. Regarding activities that may be harmful to species at risk, the New Brunswick legislation prohibits only those that affect plants, whereas the Ontario legislation prohibits those that are harmful to any species.⁽³¹⁾ The Ontario statute, like its counterparts in the other three provinces, should be strengthened. Although Ontario prohibits the killing, harming or taking of species at risk, the Crown has to prove that the action was "wilful." Nor does the Act prohibit the possession, sale or transportation of species at risk or parts thereof.⁽³²⁾ There have been four convictions under the Ontario statute,

(29) House of Commons, *Debates*, Statement by Paul de Villers on Bill C-275, 20 June 1995, p. 14258.

(30) The Sierra Legal Defence Fund (1995), p. 9.

(31) J.P. Foley and L.S. Maltby, *A Summary of Endangered Species and Related Legislation*, Environment Canada, Canadian Wildlife Service, Draft, 15 February 1995, p. 17-22.

(32) The Sierra Legal Defence Fund (1995), p. 31.

which has been in place for 23 years, but none pertained to habitat and the highest fine was \$500.⁽³³⁾

According to the Endangered Species Coalition, the Quebec and Manitoba statutes are stronger than their counterparts in Ontario and New Brunswick. They cover a wider range of species and include two risk categories, namely endangered and threatened; under the Quebec statute, these categories correspond to threatened and vulnerable respectively. In addition, the Manitoba legislation provides for the creation of a scientific committee to advise the government on the identification and protection of species at risk, while the Quebec legislation allows for identification of the habitat of each species at risk.⁽³⁴⁾

The Manitoba statute applies to all taxonomic groups of plants and animals (species, subspecies, breeds, varieties and separate populations) and also includes eggs and larvae. The definition of habitat is broad: an area of land, water or air that contains the natural resources on which the species depends for its life and propagation.⁽³⁵⁾ However, there is no requirement to establish a list of species at risk or their habitats. The Act also states that a permit is required for any activity likely to disturb species at risk.

One of the interesting features of Quebec's Act respecting threatened or vulnerable species is that the companion policy recognizes the need to conserve Quebec's genetic diversity by preventing species from becoming extinct, preventing the decline of populations of threatened or vulnerable species, ensuring conservation and restoration of the habitats of vulnerable and threatened species and working to prevent species from becoming threatened or vulnerable.⁽³⁶⁾ Like its Manitoba counterpart, the Quebec statute applies to all taxonomic groups of plants and animals, including invertebrates other than molluscs and crustaceans. It also includes the same two risk categories. Listing designated species is not mandatory, however. In 1995, the Quebec government implemented the first two regulations to protect nine plants. The first regulation designates the Wild Leek as a vulnerable species

(33) House of Commons, *Evidence of the Standing Committee on Environment and Sustainable Development*, Session 108, 26 April 1995, p. 108:10.

(34) The Sierra Legal Defence Fund (1995), p. 9.

(35) Foley and Maltby (1995), p. 20.

(36) *Ibid.*, p. 17.

LEGISLATION ON SPECIES AT RISK IN OTHER COUNTRIES

In 1973, the United States was the first country to pass a law on endangered species. Close to 20 years later, the Government of Australia also passed federal legislative measures on this issue. These two statutes are more comprehensive and much more stringent than the provincial legislation mentioned earlier. They provide for the development of a list of endangered species, the identification of their habitats and the implementation of recovery plans for each of the species listed. They also prohibit a whole range of activities that could be harmful to endangered species. Finally, all federal bills likely to have an adverse effect on an endangered species or its habitat must have the approval of the authorities responsible for implementing the endangered species Act. Below, in addition to the American and Australian legislation, we examine legislative measures concerning the protection of endangered species and their habitats which were passed by the European Community in 1992.

A. The U.S. *Endangered Species Act*, 1973

The U.S. *Endangered Species Act* can be traced back to the mid-1950s, when a group of biologists met in Washington to discuss the expected extinction of the Whooping Crane, of which only 24 remained. The American Congress took a number of initiatives in an attempt to check the problem, but was not successful. Following this failure, it passed the *Endangered Species Act* in 1973,⁽⁴⁰⁾ a move that was very progressive for the time. Some 20 years later, this legislation is still considered to be the most effective in the world and is a model for all other countries.

1. Various Aspects of the Act

The first requirement of the American legislation is to designate species that are threatened or endangered. The majority of species, subspecies and distinct populations are included in this process, with the exception of insects; the Act also protects eggs and other

(40) M. Kriz, "Caught in the Act," *National Journal*, 16 December 1995, p. 3092.

developmental stages. The list of designated species is based on the best scientific information available and must be revised every five years. In 1994, the U.S. Fish and Wildlife Service had put on the list 773 species at risk, 75% of which fell into the endangered category.⁽⁴¹⁾

Second, a recovery plan is required for each species at risk; not all species benefit from such a plan, however, even today. In the early 1980s, because of lack of funds, a recovery plan had been drawn up for only half of the 425 species then listed. This situation was corrected with the 1988 amendments, which increased the level of funding from \$25 million in 1985 to \$66 million in 1992. At the same time, efforts to monitor the remaining species awaiting listing were encouraged, and the Department of the Interior pledged that it would work with the States to monitor recovering species.⁽⁴²⁾ These corrective measures allowed a greater number of species to benefit from recovery plans; in 1994, such plans had been established for 60% of the species on the list. There is a relatively high success rate for these recovery plans, which have arrested the decline of approximately 40% of the species listed.⁽⁴³⁾ The purpose of a recovery plan is to encourage the conservation and survival of a species at risk, to the extent that it will no longer need to be protected.

The American legislation also requires designation of the habitat, or a part of the habitat, critical to a species at risk. The focus is on specific areas within the geographic distribution of the species that are essential to its conservation and that require management or special protection.⁽⁴⁴⁾ The fact that the entire habitat of a species is not included is one of the weaknesses of the American legislation, according to the Endangered Species Coalition, because the potential habitat could be important for the recovery of a species at risk. Furthermore, it should be noted that species at risk do not always have designated critical habitats. Since the 1978 amendments, the designation of critical habitats has been undermined

(41) S. Elgie, "Does Canada Need an Endangered Species Law? Lessons from the United States," *Recovery: An Endangered Species Newsletter*, Canadian Wildlife Service, Winter, 1994, p. 6.

(42) G. Byrne, "Strengthened Endangered Species Act Passes," *Science*, Vol. 242, 14 October 1988, p. 190.

(43) Elgie (1994), p. 6.

(44) Foley and Maltby (1995), p. 28.

by a process of cost-benefit analysis, whereby, if the costs of designating a particular habitat as critical outweigh the benefits, the area can be excluded, unless that would result in the extinction of the species.⁽⁴⁵⁾ The U.S. Fish and Wildlife Service used this amendment to exclude 1.8 million hectares, including 869,000 acres of federal lands, from the Spotted Owl's critical habitat in the northwestern United States, on the grounds that otherwise the job loss and reduction in federal payments would have been too great.⁽⁴⁶⁾

Also prohibited by the American legislation are a large number of activities that could adversely affect species at risk, such as harassing, hunting, capturing or collecting individual members of these species, as well as harming them; it also makes it an offence to bring about a change or a deterioration in their habitat. These bans apply equally to private and public lands. Thus, any private landowner must obtain a permit to develop lands on which representatives of the species at risk are present; such a permit is granted upon submission of a satisfactory conservation plan minimizing the impact of injurious actions.

The final requirement of the American legislation is a mechanism for the review of all federal projects that could disturb the critical habitat of species at risk. A project that does not disturb the critical habitat of a species is not included in this process. Despite this weakness, the Endangered Species Coalition views the American experience as very positive. This statement is based on a survey by the U.S. Fish and Wildlife Service indicating that 99.97% of projects that could have presented a conflict received the go-ahead after advance review. In other words, it proved possible to avoid endangering species through the introduction of amendments and mitigating measures. In the 21 years this Act has been in existence, there have been only three occasions, including the cases of the Spotted Owl and the Snail Darter, on which it was necessary to resort to the procedure because of an irreconcilable conflict between a development project and the protection of one or more endangered species.⁽⁴⁷⁾

(45) Douglas (1991), p. 13.

(46) National Wildlife Federation's Endangered Species Program, *Economics and the ESA: Flexibility and Balance*, Gopher Text.

(47) House of Commons, *Evidence* (26 April 1995), p. 108:12.

2. Review of the Act

A number of factors are at play in the current five-year review of the U.S. *Endangered Species Act* slated to begin in 1995. The Republicans and the industrial lobbies, who oppose the Act because they view it as an obstacle to development, would like to take this opportunity to water it down. The conservationist lobbies, on the other hand, defend the Act, claiming that it has prevented the extinction of the Bald Eagle (the American emblem) and the Grizzly Bear, as well as of some other less well known species. A situation that undoubtedly worsened the conflict between opponents of the Act and its defenders was the injunction obtained by American ecologists in the mid-1980s with respect to the habitat of the Spotted Owl. For years, this injunction banned logging in federal forests covering 25 million hectares, in the American Northwest, from the State of Washington to northern California.⁽⁴⁸⁾ However, in 1992, the Endangered Species Committee, composed of seven members of the Cabinet and commonly known as the "God Committee," finally exempted 1.8 million hectares of the Spotted Owl's critical habitat in order to permit logging in a number of locations, including 850 hectares of old-growth forest in Oregon.⁽⁴⁹⁾

Opponents of the U.S. *Endangered Species Act* fault it on many grounds, including ineffectiveness, because only a few species have been taken off the list. They also feel that the Act is detrimental to economic development and that the list is based on incomplete scientific information, so that it includes species that do not need protection. Finally, they feel it focuses unduly on subspecies and geographically separate populations. The National Wildlife Federation, American and Canadian scientists, and the Endangered Species Coalition do not, however, share these points of view; they feel, on the contrary, that the U.S. *Endangered Species Act* has proved to be an essential and effective tool against extinction of species. In fact, although only seven species have been taken off the list because they were no longer at risk, approximately 40% of all species on the list are in stabilizing or improving

(48) L. G. Francoeur, "La chouette tachetée, emblème d'une croisade sans fin? Les républicains remettent en question les gains des écologistes," *Le Devoir*, 4 July 1995.

(49) J. P. Drapeau, "Se prendre pour Noé... ou laisser faire?", *Franc-Vert*, Vol. 9. No. 3, May, June, July 1992, p. 12.

condition. In addition, of over 145,000 federal actions reviewed under the Act between 1979 and 1992, fewer than 2% were found to jeopardize species, and only 69 projects were cancelled. Furthermore, the majority of species are added to the list only when their numbers are very low; only four species of a total of 950 at risk have been taken off the list because subsequent studies showed that they were more numerous than had been believed. Finally, subspecies and geographically separate populations represent only 20% of all species, but their ecological roles are often important in the ecosystems to which they belong.⁽⁵⁰⁾

With respect to the unavailability of scientific information on which to base informed decisions on species at risk, new tools are constantly being discovered for improving taxonomic and ecological knowledge. Thus, thanks to recent theoretical and technical developments in genetics and molecular biology, it is now possible to say with certainty whether a particular organism belongs to a distinct species or to a subspecies or a different variety. For example, DNA analysis has shown that the red wolf, which had been designated a threatened species and on which considerable amounts of money were spent with a view to its conservation, was merely a hybrid of the Wolf and the Coyote. This is perhaps one of the reasons why Americans want to incorporate the new knowledge of molecular biology into the amendments to the *Endangered Species Act*.⁽⁵¹⁾ Such errors are not frequent, however; they are the exception. Another example, this time from Quebec, of the value of this scientific progress is the case of the St. Lawrence Beluga Whale. DNA analysis has determined that the population of St. Lawrence Belugas, which is geographically separate from the population of Arctic Belugas, is also genetically different from them and therefore warrants protection.

The American legislation is also criticized for its emphasis on the protection of species as opposed to habitats. Although many scientists agree on the need to protect both individual species and habitats, there are many who feel that there has been too much emphasis on the former and that there should be a greater focus on habitats or ecosystems. They feel

(50) National Wildlife Federation's Endangered Species Program, *The Endangered Species Act: Myth vs. Reality*, Gopher Text.

(51) Serge Beaucher, "Suivre les animaux, à la molécule," *Franco-Vert*, December 1995 - January 1996, p. 16-19.

that protecting an ecosystem, rather than an individual species, will also protect other species, including those not yet identified. A habitat-based approach would also make it possible to act before a species was nearing extinction. This sort of approach has already been used for the last decade or so by a number of conservation organizations. It consists of identifying trouble spots (that is, habitats with a broad diversity of species or the greatest number of species at risk) and giving them protection. One example of a trouble spot is the habitat of the Spotted Owl, which is considered an "umbrella" species (a species whose protection, *de facto*, provides protection for numerous other species). Setting up a system of reserves for the protection of old-growth forests in the Pacific northwest, the habitat of the Spotted Owl, would simultaneously protect 280 species of plants and animals inhabiting the same ecosystem.⁽⁵²⁾

A final point on which many commentators agree, however, is the need to amend the Act with respect to private land. The National Wildlife Federation maintains that owners of private land containing species at risk must be given greater support and incentives. Some scientists deplore the fact that the Act only provides for penalties to punish offenders; they propose that measures be added to encourage land owners to protect species at risk. The U.S. government is already providing incentives for farmers, livestock owners and small land owners to protect wetlands, forests, soil and water quality. All that would be needed would be to open up these programs to owners of land containing examples of species at risk.⁽⁵³⁾

B. Australia's *Commonwealth's Endangered Species Protection Act, 1992*

Australia is at the centre of the world, crisis in biodiversity because it has the highest rate of extinction of mammals in the world, with 20% of its vertebrate wildlife deemed to be at risk. This situation reflects the considerable alteration of habitats on that continent, with the deterioration of 50% of its soils and the significant modification of 75% of its vegetation. Three years after the passage of Australia's *Commonwealth's Endangered Species*

(52) T. Eisner, J. Lubchenco, E.O. Wilson, D.S. Wilcove and M.J. Bean, "Building a Scientifically Sound Policy for Protecting Endangered Species," *Science*, Vol. 268, 1 September 1995, p. 1232.

(53) *Ibid.*

Protection Act in 1992, the list of extinct and threatened species is long. Since the continent was first settled by the Europeans, it is thought that 40 species of vertebrates and 75 species of plants have become extinct, while another 150 species of vertebrates and 870 species of plants are threatened.⁽⁵⁴⁾

The Australian Act has much in common with its American counterpart, although the former applies only to species that come under federal jurisdiction. It provides for the establishment of a list of species at risk, broken down into two categories, those that are threatened and those that are endangered. This list includes the habitat of each species named, and a recovery plan must be given for each one. The purpose of the plan is to stop the decline of, and support the recovery of, the species so that its chances of long term survival are maximized.⁽⁵⁵⁾

With respect to habitat, unlike the American legislation, the Australian legislation designates the entire habitat of the species at risk, and not just the critical habitat. Habitat is defined as an area in which an organism lives, or has lived, and could be reintroduced.⁽⁵⁶⁾ As with the American legislation, a good number of activities that could affect species at risk or their habitats are prohibited: killing, taking, trading, keeping or moving representatives of species or destroying or harming their environment. All these activities are prohibited on federal public lands and on private lands designated by the government. Finally, like the American legislation, the Australian legislation also provides for the review of all projects that might disturb the critical habitat of a species at risk.

The Australian legislation also includes three interesting new elements. The first is a list of endangered ecosystems. Recognition of these ecosystems is a great advantage, since the best way of protecting species at risk is to identify and protect the communities to which they belong. The second interesting element is a list of the activities considered threatening to species and ecosystems at risk. Finally, the Australian legislation provides for

(54) G.N. Backhouse and Tim W. Clark, "Endangered Species Conservation in Australia: A Partial Review and Recommendations," *Endangered Species Update*, Vol. 12, No. 8, 1995, 6 p on Internet.

(55) Foley and Maltby (1995), p. 27.

(56) *Ibid.*, p. 28.

the formation of a scientific committee to advise the government on implementation and necessary amendments.⁽⁵⁷⁾

C. The European Union's "Habitats" Directive

There has been a steady deterioration of natural habitats throughout the territory of the member states of the European Union, and a growing number of wild species are seriously threatened. In 1992, the Union's Council passed a directive, known as the "Habitats" directive, on the conservation of natural habitats, wildlife, and wild plants. This directive aims to conserve European biodiversity in two ways. First, it obliges member states to protect 293 animal species and 490 plant species. Second, it requires governments to protect the natural habitats of the most threatened species in Europe. In 1998, the list of sites selected will be published by the responsible Commission, and the member states will have until 2004 to give official undertakings to protect them and to put in place the necessary measures. These sites, or special conservation areas, will form the "Natura 2000" network. In addition to using various legal means to oblige member states to respect the Habitats directive, there is a requirement for an appropriate evaluation of any project or development plan likely to have an impact on a "Natura 2000" site. It is hoped that in France, which has had environmental protection legislation since 1976, the Habitats directive will bring about a significant improvement in the situation of species at risk.⁽⁵⁸⁾

CANADIAN FEDERAL INITIATIVES TO PROTECT SPECIES AT RISK

In Canada, the relevance of legislation to protect species at risk has been a topic of debate for almost 20 years. During a 1976 symposium on Canada's endangered species and habitats, one delegate pointed out that programs for species at risk simply could not protect

(57) The Sierra Legal Defence Fund (1995), p. 22-23-26.

(58) A. Debièvre, "Les enjeux de la directive "Habitats," *L'Environnement*, No. 1545. March 1996, *Administration et Nature*, p. 12-15.

Canadian flora and fauna without the power of legislation to back them up. In 1989, the Greenprint for Canada Committee, which consisted of 34 conservation and aboriginal organizations, submitted a report to the Prime Minister recommending the enactment of a federal law on species at risk in order to consolidate Canada's biological diversity. Environment Canada was not convinced that such a law was needed, however. The federal government believed at the time that it could use existing federal statutes related to wildlife, flora, and the environment to protect species at risk, following the example of the United Kingdom, Germany, France and other countries in Europe. However, a brief submitted in 1992 to the Standing Committee on the Environment (by a coalition made up of the World Wildlife Fund, the Canadian Nature Federation, the Canadian Parks and Wilderness Society, the Sierra Club of Canada and the Canadian Environmental Law Association) did much to change the government's perception on this front. The brief to the Standing Committee on the Environment, which was considering among other items the substance of the Agenda 21 chapter on biodiversity, stressed the need for legislation on species at risk in order to implement the Convention on Biological Diversity. The following year, the Standing Committee on the Environment recommended that the Government of Canada take immediate steps to develop an integrated legislative approach to the protection of endangered species, habitats, ecosystems and biodiversity in this country.⁽⁵⁹⁾

While it is true that federal legislation related generally to wildlife, flora and the environment affords broad and flexible protection for many species at risk, this protection is, according to the Coalition, inconsistent. For example, the *Fisheries Act* protects fish, while the Migratory Birds Convention protects some birds. Because mechanisms vary from statute to statute, protection remains piecemeal. Obviously, species at risk that are not covered by any statute are not protected at all. The habitats of some species at risk can also be protected, in whole or in part, under federal laws that contain suitable provisions. However, the primary function of these laws is not to protect habitats, but rather to prevent the taking of species.⁽⁶⁰⁾

(59) Environment Canada, Canadian Wildlife Service, *Endangered Species Legislation in Canada: A Discussion Paper*, 17 November 1994, p. 4-5.

(60) C. Dauphiné, "Does Canada Need an Endangered Species Law: How Current Laws Apply," *Recovery: An Endangered Species Newsletter*, Canadian Wildlife Service, Winter 1994, p. 7.

In 1993, acting on the Standing Committee's recommendation, Environment Canada set up a working group on "Managing Wildlife at Risk: Do We Have the Right Tools?" The group submitted 10 recommendations on legislation and policy. Three of those recommendations are particularly relevant: that all provinces should enact comprehensive legislation governing endangered species; that provinces with existing endangered species legislation should upgrade it; and that the federal government should pass an Act, equivalent to the provincial Acts, that would cover species within its jurisdiction and frame national minimum standards for the designation and protection of endangered species of national significance and their habitats and for the application of recovery strategies.⁽⁶¹⁾

A. Parliamentary Initiatives

If one is to believe Statistics Canada surveys, public interest in endangered wildlife has been very high for more than a decade.⁽⁶²⁾ This public interest did not go unnoticed by some parliamentarians, who attempted to interest their colleagues in the issue. In 1991, two Private Members' bills were tabled in the House of Commons (MP Wenman's Bill C-303 on endangered species and biodiversity and MP Caccia's Bill C-209 on the protection and rehabilitation of endangered and threatened species), but neither bill reached second reading. A modified version of the Caccia bill tabled in 1994 reached second reading and was referred to the Standing Committee on Environment and Sustainable Development. Bill C-275 died on the order paper when the first session of the 35th Parliament ended in early 1996, but was re-introduced as Bill C-238 as soon as the second session of the 35th Parliament began.

The preamble to Bill C-303, introduced in 1991, reflected Mr. Wenman's concerns about the issue of biodiversity. In addition to the elements normally found in legislation of this type (that is, the designation of species as either endangered or threatened, the prohibition of certain activities, the establishment of recovery plans and the designation of critical habitat zones), the bill included two interesting features. One of those features, patterned after Australian legislation, was the proposed designation of endangered ecosystems.

(61) Environment Canada, Canadian Wildlife Service (1994), p. 6.

(62) *Ibid.*, p. 5.

The other was a requirement that departments, agencies and Crown corporations would have to ensure that every action authorized, funded or carried out by them: "a) is consistent with the purpose of the Act; b) does not jeopardize the continued existence of any endangered species, or result in the destruction or adverse modification of habitat of any endangered species; and c) does not result in the destruction or adverse modification of any endangered ecosystem."⁽⁶³⁾

Like the Wenman bill, Mr. Caccia's Bill C-238, as it became when re-introduced for first reading on 18 March 1996, contains, in addition to the usual elements, the proposal that every environmental impact assessment prescribed by a federal statute should evaluate its likely impact on endangered or threatened species or protected habitat. The Caccia bill also incorporates the list of species designated by COSEWIC.⁽⁶⁴⁾

B. Environment Canada's Legislative Proposal

In the spring of 1995, the federal government tabled a discussion paper entitled *A National Approach to Endangered Species Conservation in Canada*, which reported the results of public consultations held in 14 Canadian cities. Ten main themes emerged from the public consultations, the most frequently mentioned being the importance of public information. The need for strong legislation was another common theme. On the other hand, some of the participants said they felt the existing legislation was adequate and there was no need to intervene in what many see as an area of provincial/territorial jurisdiction. Respect for the rights of landowners was also a concern for many participants. There were some suggestions that the new legislation should not undermine sound land management, but rather should foster cooperation among landowners; other participants expressed the view that incentives might encourage landowners to protect habitats. A number of specific elements of the legislation were addressed as well. Specifically, it was suggested that the process of designating species be left to a scientific committee and that prevention be an important feature of the Act; the Act should be able to ensure that species do not become vulnerable. Some

(63) Bill C-303, An Act respecting endangered species and biological diversity, Mr. Wenman, House of Commons, First Reading, 2 October 1991.

(64) Bill C-275, An Act respecting the protection and rehabilitation of endangered and threatened species, Mr. Caccia, House of Commons, First Reading, 28 September 1994.

participants questioned the availability of human and financial resources to enforce the Act.⁽⁶⁵⁾ As already mentioned, American experience has shown that the issue of available funds is crucial if anything is to be done to prevent vulnerable species from moving up to higher-risk categories.

In the fall of 1995, as follow-up to the consultations, Environment Canada released a legislative proposal, namely the *Canadian Endangered Species Protection Act*. The proposal sparked two main criticisms from almost 180 Canadian scientists who signed a joint letter to Environment Minister Sheila Copps. The scientists denounced the proposal as not strong enough, particularly in terms of protecting the habitats of species at risk. The importance of habitat protection is confirmed by the fact that 73% of the species around the world become extinct as a result of destruction of their natural habitats. Second, the scientists pointed out that the proposed legislation would apply only to species found on federal land, primarily in national parks, and species under federal jurisdiction, such as migratory birds, migratory mammals like the St. Lawrence Beluga and some species of migratory fish. Federal land accounts for only a very small proportion - roughly 4% - of Canada's total land base.⁽⁶⁶⁾

Loss of habitat is the greatest threat to Canadian species, accounting for an estimated 80% of the decline of species in Canada. It is therefore essential, according to environmentalists, that federal legislation to protect species at risk make habitat protection mandatory; under the proposed legislation, only crucial habitats of species at risk could be designated. For environmentalists it is clear that the legislation must not leave habitat protection to political discretion.⁽⁶⁷⁾ Similarly, the selection of species at risk for which recovery plans would be prepared would still be discretionary. Just as habitat protection and the selection of species for recovery programs would be discretionary, so the legislation would provide only for the regulation of activities harmful to species at risk. The prohibition of such activities is a very important issue. Hunting and other forms of direct exploitation have been a

(65) Environment Canada, Canadian Wildlife Service, *Report on Public Consultation: A National Approach to Endangered Species Conservation in Canada*, 102 p.

(66) P. Gingras, "Les scientifiques réclament une loi fédérale musclée sur les espèces menacées," *La Presse*, 23 November 1995, p. A10.

(67) Canadian Endangered Species Coalition, *Fact Sheet on Critical Habitat Protection*, CESC Web Site established 2 February 1995, 2 p. on the Internet.

significant factor in the decline of many species. Overhunting led to the extinction of the Passenger Pigeon and the Great Auk; several species of whales are now at risk because of past overhunting, and some species at risk, such as the Grizzly Bear, are still being hunted. Overharvesting is also a significant cause of the decline of plants, as in the case of American Ginseng and Wild Leek.⁽⁶⁸⁾

If this legislative proposal were to be tabled and passed, it would establish in law the process by which COSEWIC designates species at risk and the recovery program for species at risk, which would please many. However, all the proposal requires is that a list of species at risk be established. The Canadian proposal is considered to be much weaker than the American law, which requires everything from the designation of species at risk and their habitats to recovery plans, along with the prohibition of activities harmful to species at risk or their habitats. Also missing from the proposed legislation is a process for preliminary assessment of projects that could disturb the habitats of species at risk, which analysts feel is a strong feature of the American legislation. Preliminary assessment of projects is an essential component of a preventive approach to the protection of species at risk, which is much more economical than a remedial approach.

The second weakness in the proposed legislation is that it would apply to federal land only.⁽⁶⁹⁾ The government's approach is, however, related to the opposition not only of representatives of the natural resources industry, farmers and even small landowners, but also of the provinces. The natural resources industry is afraid that protecting the habitats of species at risk will hamper, if not limit, land development. Farmers in particular are afraid that legislation on species at risk may infringe their property rights and are concerned that the federal government's plans do not mention compensation or incentives for landowners who might be affected by the legislation. Farmers believe that tax incentives, financial rewards and other forms of compensation, and even the elimination of certain barriers, should be used to

(68) The Sierra Legal Defence Fund (1995), p. 31.

(69) Canadian Endangered Species Coalition, *Fact Sheet on Critical Habitat Protection*, CESC Web Site established 2 February 1995, 2 p. on the Internet.

encourage conservation efforts.⁽⁷⁰⁾ Advocates of habitat protection believe that private land and farmland would be relatively unaffected by the protection of crucial habitats because only about 20% of the 243 species at risk in Canada are found exclusively or primarily on private land. Where farming has a bearing on the survival of species, only 17 species are found primarily on private land. In those instances, incentives and assistance for the landowners might very well contribute significantly to the protection of critical habitats and the recovery of species at risk.⁽⁷¹⁾

The provinces, meanwhile, do not look kindly on federal intervention, even in an area of shared jurisdiction. Some provinces that have already passed legislation on species at risk are afraid there will be two processes for designating species and habitats and consequently a doubling of the resources needed. There are also concerns about the overregulation that can result from having two statutes, one provincial and one federal. Certainly, the provinces will always have reservations about federal intervention, but the Endangered Species Coalition believes the federal government, the provinces and the territories have to pull together to protect species at risk. Strong provincial legislation is needed because most habitats of species at risk are located on provincial land and there is tremendous expertise in this area at the provincial level. On the other hand, strong federal legislation is also needed because many populations of species at risk straddle provincial borders or are found on federal land. The coalition believes that, in order to prevent the duplication that the provinces fear, the three levels of government should co-ordinate their efforts and divide up the implementation of measures to protect species at risk.⁽⁷²⁾ For many, the best idea is probably to harmonize the actions of all the levels of government and ensure that they complement each other so as to protect species at risk.

(70) Sheila Forsyth, *Evidence of the Standing Committee of the House of Commons on Environment and Sustainable Development*, Forum on the Status of Wildlife and Habitats in Canada, 27 April 1994, p. 4-5.

(71) *Ibid.*

(72) The Sierra Legal Defence Fund (1995), p. 66-67.

CONCLUSION

Over the years, Canada has acquired various tools to ensure the protection of natural environments and the animal and plant species they sustain. The federal government has taken action with respect to national parks, migratory birds, fish and wild species generally, particularly in connection with their international and national trade. These initiatives notwithstanding, many species have been able to maintain only a fragile hold or have disappeared altogether. The extinction and decline of certain species, combined with other pressures on natural ecosystems, have not been without effect on Canada's overall biodiversity. It is by maintaining the highest possible level of biodiversity, however, that we will be able to ensure, if not improve, our quality of life. Many believe that, in order to better protect biodiversity, it is necessary to intervene directly with respect to vulnerable species by passing legislation specific to species at risk.

This is what has been done by a number of countries, including the United States, Australia, Japan and the European Union. The *Endangered Species Act* passed by the United States back in 1973 is still, of course, the best known legislation and continues to be a model of its kind in the field of natural resource conservation. It was, to a certain extent, the inspiration for the initiatives of other countries, although these are more recent, with Australia and the European Union not having taken action until 1992. In Canada, four provinces, Ontario, New Brunswick, Quebec and Manitoba, have also passed legislation of this kind; implementation has been effective to some extent.

Following the lead of other countries, and of some provinces, the Government of Canada is now thinking of introducing legislation for the specific purpose of protecting species at risk. In fact, this idea took on the form of a promise in the February 1996 Throne Speech. A legislative proposal in this regard was prepared by Environment Canada and has already been the subject of public consultations. This proposal, which is a follow up to various Private Members' bills, essentially provides for the protection of species at risk on land under federal jurisdiction. Certain groups have criticized the limited scope of the proposal and pushed for greater protection of the habitats of species at risk. Others, however, are concerned that it might hinder development and restrict the right of property. It remains to

be seen how Environment Canada will interpret the criticism and suggestions from the various stakeholders and how those provinces that already have such legislation will perceive the proposal. The federal initiative will be more productive if both levels of government co-ordinate their efforts to implement measures to protect species at risk.

The eventual passage of a federal statute on species at risk would add yet another tool to the existing array of instruments whose goal, in varying degrees, is the protection of the environment, natural habitats and the species they contain. The conservation of biodiversity and of the species themselves is just part, however, of an overall strategy to promote Canada's sustainable development.

